

This Class 522 is considered to be an integral part of Class 520 (see the Class 520 schedule for the position of this Class in schedule hierarchy). This Class retains all pertinent definitions and class lines of Class 520

SYNTHETIC RESINS (CLASS 520, SUBCLASS 1)	
1	.COMPOSITIONS TO BE POLYMERIZED BY WAVE ENERGY WHEREIN SAID COMPOSITION CONTAINS A RATE-AFFECTING MATERIAL; OR COMPOSITIONS TO BE MODIFIED BY WAVE ENERGY WHEREIN SAID COMPOSITION CONTAINS A RATE-AFFECTING MATERIAL; OR PROCESSES OF PREPARING OR TREATING A SOLID POLYMER UTILIZING WAVE ENERGY
2	..Processes of forming or modifying a solid polymer by laser; or compositions therefore
3	..Processes of forming or modifying a solid polymer wherein specified mixing, stirring, agitating, movement of material or directional orientation is employed; or compositions therefore
4	..Processes of forming or modifying a solid polymer by wave energy wherein at least two distinct external radiant energy sources are utilized; or compositions therefore
5	..Processes of forming or modifying a solid polymer by wave energy wherein a temperature less than 0 degree C (32 degree F) or greater than 250 degree C (482 degree F) is employed; or compositions therefore
6	..Compositions to be polymerized or modified by wave energy wherein said composition contains at least one specified rate-affecting material; or processes of preparing or treating a solid polymer utilizing wave energy in the presence of at least one specified rate-affecting material; e.g., nitrogen containing photosensitizer, oxygen containing photoinitiator, etc. wave energy in order to prepare a cellular product
7	...Contains two or more rate-affecting materials, at least one of which is specified
8	....At least two specified rate-affecting materials containing keto group not part of a ring; or contains a nonspecified photoinitiator or photosensitizer and specified ketone containing material wherein the keto group is not part of a ring
9	.....With a heterocyclic specified rate-affecting material
10	.....With a tertiary amine specified rate-affecting material
11	...Contains compound containing keto group not part of a ring and nonspecified rate-affecting material other than mere photoinitiator or photosensitizer
12	...Contains compound containing keto group not part of a ring and a specified rate-affecting material; or contains a specified rate-affecting material and a nonspecified photoinitiator or photosensitizer
13	.....Specified rate-affecting material is a peroxide or azo compound
14	.....Specified rate-affecting material is an amide or tertiary amine

15	.....Specified rate-affecting material contains onium group	35	....Contained in polymeric rate-affecting material, e.g., synthetic resin, etc.
16	.....Specified rate-affecting material is heterocyclic	36	....Containing two or more ketone groups
17	.....Specified rate-affecting material contains sulfur	37	.....Adjacent (C=O)* groups where * is at least two
18	.....Specified rate-affecting material contains phosphorous, arsenic, antimony or nitrogen atom	38	....Containing phosphorous
19	.....Specified rate-affecting material is an aldehyde or aldehyde derivative	39	....Containing nitrogen
20	.....Specified rate-affecting material is a carboxylic acid or derivative	40	....Containing C-CO-CHOH, e.g., benzoin, etc.
21	.....Specified rate-affecting material contains C-OH or C-O-C group	41	.....Containing C-CO-CHOH-CHOR wherein R is organic
22	.....Specified rate-affecting material contains an inorganic compound	42	....Containing C-CO-C(R)(OH) wherein R is organic
23	.....Specified rate-affecting material contains only carbon, hydrogen, or halogen and at least one atom of carbon is bonded to hydrogen or a halogen atom	43	....Containing C-CO-C(H)(OR) wherein R is organic, e.g., benzoin methyl ether, etc.
24	....Specified rate-affecting material is a peroxide	44	....Containing C-CO-C(R)(OR) wherein R is organic, e.g., diethoxyacetophenone, etc.
25	....Specified rate-affecting material contains onium group	45	....Containing halogen, e.g., chloroacetone, etc.
26	....Specified rate-affecting material is heterocyclic	46	....At least two aryl groups connected directly to same carbonyl carbon, e.g., benzophenone, etc.
27	....Specified rate-affecting material contains sulfur	47	...Specified rate-affecting material is a quinone
28	....Specified rate-affecting material contains phosphorous, arsenic, antimony or nitrogen	48	....Quinone ring is part of polynuclear system, e.g., anthraquinone, etc.
29	....Specified rate-affecting material is a metal-containing organic compound	49	...Specified rate-affecting material contains chalcogen other than as oxygen
30	....Specified rate-affecting material is organic	50	....Hetero nitrogen ring
31	...Specified rate-affecting material contains onium group	51	.....Containing mercapto or mercaptide group, e.g., (thio)mercaptobenzoxazole, etc.
32	....Diazonium containing material	52	.....Containing halogen
33	...Specified rate-affecting material contains a ketone group -c-(CO)n-c-, the (CO)n not being part of a ring	53	....Hetero sulfur ring
34	....Containing ethylenic unsaturation	54	....C-(S)*-C wherein * is at least two
		55	....Sulfide
		56	....Mercapto group attached directly to aromatic ring, e.g., thiophenol, etc.
		57	....Nitrogen containing compound
		58	....Sulfenate, e.g., R-O-S-R, etc.
		59	....(O=S=O), e.g., sulfonyl or sulfonyl containing, etc.

60	...Specified rate-affecting material is a peroxide	87	..Processes involving protein as reactant or as solid polymer; or compositions therefore
61	....Hydroperoxide		
62	...Specified rate-affecting material contains a C=N=N-C-group	88	..Processes involving carbohydrate as reactant or as solid polymer; or compositions therefore
63	...Specified rate-affecting material contains nitrogen or oxygen atom in heterocyclic ring	89	...Preparing a polymer from carbohydrate and ethylenic reactant
64	...Specified rate-affecting material contains phosphorous	90	..Processes involving a polyurethane having terminal ethylenic unsaturation as reactant or as solid polymer; or compositions therefore
65	...Specified rate-affecting material contains nitrogen		
66	...Specified rate-affecting material contains metal atom	91	...With a polysiloxane reactant or polymer
67	...Specified rate-affecting material contains halogen	92	...With a reactant containing ethylenic unsaturation derived from poly 1,2 epoxide or polymer
68	...Specified rate-affecting material contains oxygen		
69	....Phenolic, e.g., hydroquinone, etc.	93	...With polycarboxylic acid or derivative and a polyol, a condensate or solid polymer thereof reactant
70	...Specified rate-affecting material contains only carbon and hydrogen		
71	..Processes of preparing or treating a solid polymer by wave energy in the presence of a designated nonreactant material (DNRM); or compositions therefore	94	...With aldehyde or aldehyde derivative reactant, condensate or solid polymer thereof
72	...Carbohydrate or derivative DNRM	95	...With solid polymer derived solely from ethylenic monomers
73	...Coal, asphaltic, or bituminous material DNRM	96	...With ethylenic reactant
74	...Organic DNRM	97	...Polyurethane has an oxygen other than as part of a urethane or carboxylic acid ester group
75	....Heterocyclic ring containing DNRM	98	...Polyurethane has at least one non-terminal ethylenic group
76	....Phosphorous containing DNRM	99	..Processes involving a polysiloxane having ethylenic unsaturation as reactant or as solid polymer; or compositions therefore
77	....Silicon containing DNRM		
78	....Nitrogen containing DNRM		
79	....Oxygen containing DNRM		
80	....Carbon and hydrogen only containing DNRM	100	..Processes involving an ethylenically unsaturated material derived from poly 1,2-epoxide as reactant or a solid polymer; or compositions thereof
81	...Heavy metal containing DNRM		
82	...Phosphorous or sulfur containing DNRM		
83	...Oxygen containing DNRM		
84	....Water	101	...With polycarboxylic acid or derivative and a polyol, condensate or solid polymer thereof
85	.....Reacting an ethylenic monomer in the presence of a solid polymer		
86	.....Treating a solid polymer	102	...With solid polymer derived solely from ethylenically unsaturated monomers

103	...With ethylenic reactant	121	.....Chemical reactant has two or more ethylenic groups
104	..Processes involving an ethylenically unsaturated polyester derived from a polycarboxylic acid or derivative and polyol, condensate or solid polymer thereof; or compositions therefore	122	.....Hetero oxygen
		123	.....Contains C-OH group other than as part of a COO-moiety
105	...With aldehyde or aldehyde derivative reactant or polymer thereof	124	....Carbon, hydrogen and halogen or carbon and halogen only
		125	....Carbon and hydrogen only
106	...With solid polymer derived from ethylenically unsaturated monomers only	126	...Chemical reactant contains nitrogen
		127	...Chemical reactant contains sulfur
107	...With ethylenic reactant	128	....Elemental sulfur
108	...Condensate or solid polymer contains oxygen other than as part of a carboxylic acid ester moiety	129	...Chemical reactant contains oxygen
		130	....Contains C=O moiety
109	..Processes of chemically modifying a blend of two or more solid polymers in the presence of a chemical reactant; or compositions therefore	131	...Chemical reactant is elemental halogen
		132	....Solid polymer treated contains halogen
110	...At least one solid polymer derived from ethylenic monomers has at least two ethylenic groups	133	....Solid polymer derived from single monomer
		134	..Processes of chemically modifying a solid polymer or SICP derived from at least one saturated monomer by treating solid polymer or SICP with a chemical reactant; or compositions therefore
111	..Processes of treating a blend of two or more solid polymers or reacting one solid polymer with another solid polymer; or compositions therefore	135	...Chemical reactant is ethylenically unsaturated
		136	....Nitrogen
112	...At least two solid polymers derived from ethylenic monomers only	137	.....Chemical reactant has two or more ethylenic groups
		138	.....Hetero nitrogen
113	..Processes of chemically modifying a solid polymer derived only from ethylenically unsaturated monomers by treating polymer with a chemical reactant; or compositions therefore	139	.....N-C=O containing
		140	.....Two or more N-C=O groups
114	...Chemical reactant is ethylenically unsaturated	141	...Chalcogen
115	....Phosphorus	142	....Chemical reactant has two or more ethylenic groups
116	....Nitrogen	143	.....Hetero oxygen
117	.....Chemical reactant has two or more ethylenic groups	144	....Carboxylic acid or derivative
118	....Sulfur	145	....Chemical reactant has two or more ethylenic groups and contains only carbon and hydrogen
119	.....Chemical reactant has two or more ethylenic groups	146	...Chemical reactant contains chalcogen
120	....Oxygen	147	...Chemical reactant contains halogen
		148	..Processes of treating a solid polymer or SICP derived from silicon containing reactant; or compositions therefore

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| 149 | ..Processes of treating a reaction product of a solid polymer and ethylenic reactant; or compositions therefore e.g., graft- or graft-type polymer, etc. | 167 | ..Processes of preparing a solid polymer from heterocyclic nitrogen monomers; or compositions therefore, e.g., carbazole, etc. |
| 150 | ..Processes of treating a solid polymer derived from ethylenic monomers only; or compositions therefore | 168 | ..Processes of preparing a solid polymer from a heterocyclic chalcogen monomer; or compositions therefore |
| 151 | ...Solid polymer derived from nitrogen containing monomer | 169 | ...Two or more hetero atoms in hetero ring at least one of which is oxygen |
| 152 |Nitrogen containing monomer contains oxygen | 170 | ...1,2 epoxy |
| 153 | ...Solid polymer derived from carboxylic acid or derivative monomer | 171 | ..Processes of preparing a solid polymer from at least one phosphorous containing monomer; or compositions therefore |
| 154 |Oxygen other than as part of carboxylic acid or derivative moiety | 172 | ..Processes of preparing a solid polymer from at least one silicon containing monomer; or compositions therefore |
| 155 | ...Solid polymer derived from halogen containing monomer | 173 | ..Processes of preparing a solid polymer from at least one nitrogen containing monomer; or compositions therefore |
| 156 |Halogen is fluorine | 174 | ...Nitrogen containing reactant contains a N-C=O or N-C=O moiety |
| 157 | ...Solid polymer derived from monomer containing only carbon and hydrogen | 175 |Acrylamide or methacrylamide |
| 158 |At least one reactant contains two or more ethylenic groups | 176 | ...Organic polyamine and polycarboxylic acid or derivative or from an organic amine salt of a polycarboxylic acid |
| 159 |Polyisoprene or natural rubber | 177 | ...Acrylonitrile or methacrylonitrile |
| 160 |Carbocyclic ring containing, e.g., styrene, etc. | 178 | ..Processes of preparing a solid polymer from at least one oxygen containing monomer; or compositions therefore |
| 161 |Derived from ethylene | 179 | ...Polycarboxylic acid or derivative and polyol, or condensate thereof, e.g., dimethylterephthalate, etc. |
| 162 | ..Processes of treating a solid polymer or SICP derived from at least one nonethylenic reactant or compositions therefore | 180 | ...Sulfur containing |
| 163 | ...Solid polymer or SICP derived from reactant having halo-C(=O)-halo, halo C(=O)-O, or -O-C(=O)-O-group | 181 | ...Ether group |
| 164 | ...Solid polymer or SICP derived from polycarboxylic acid or derivative and organic amine or from organic amine salt of a polycarboxylic acid | 182 | ...Carboxylic acid or derivative |
| 165 | ...Solid polymer or SICP derived from polycarboxylic acid or derivative and polyol | 183 |Oxygen other than as part of a COO-group |
| 166 | ...Solid polymer or SICP derived from at least one heterocyclic monomer or aldehyde or aldehyde derivative | 184 | ..Processes of preparing a solid polymer from ethylenic reactants only; or compositions therefore |

- 185 ...Carbon, hydrogen and halogen
 only reactant contains at
 least three carbon atoms
- 186 ...At least one reactant contains
 two or more ethylenic groups
- 187 ...At least one reactant contains
 halogen
- 188 ...Derived from aromatic
 hydrocarbon
- 189 ...Derived from ethylene only

CROSS-REFERENCE ART COLLECTIONS

- 901 DARK STORAGE STABILIZER
- 902 AIR INHIBITION
- 903 REMOVAL OF RESIDUAL MONOMER
- 904 MONOMER OR POLYMER CONTAINS
 INITIATING GROUP
- 905 .Benzophenone group
- 906 PREPARING SHRINKABLE MATERIAL
- 907 INVOLVING PRECURSOR OF AN
 ULTRAVIOLET ABSORBER, E.G.,
 MONOBENZOATE, ETC.
- 908 DENTAL UTILITY
- 909 SOLVENTLESS INK
- 910 TREATMENT THROUGH AN EXTERNAL
 FILTER OR MASK
 (NONPHOTOGRAPHIC PROCESS)
- 911 SPECIFIED TREATMENT INVOLVING
 MEGARAD OR LESS
- 912 .Polymer derived from ethylenic
 monomers only
- 913 NUMERICALLY SPECIFIED DISTINCT
 WAVELENGTH
- 914 .Wavelength of 200 nanometers or
 less
- 915 INVOLVING INERT GAS, STEAM,
 NITROGEN GAS, OR CARBON
 DIOXIDE

FOREIGN ART COLLECTIONS

FOR 000 CLASS-RELATED FOREIGN DOCUMENTS